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PROGRAMME MATTERS REQUIRING POLICY GUIDANCE FROM THE COUNCIL

Report of the Executive Director

Addendum

STRATEGIES FOR THE PROTECTION AND DEVELOPMENT OF THE OCEANS AND COASTAL AREAS

Note by the Executive Director

1. The Executive Director is pleased to submit to the Governing Council the attached table of contents, together with the draft highlights, of a report on strategies for the protection and development of the oceans and coastal areas, commissioned in a joint effort by UNEP and the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization.

2. UNEP and IOC are the two major United Nations bodies with versatile and multifaceted programmes dealing with oceans and coastal areas. The common experience of both organizations, based on more than a decade of fruitful and close co-operation on numerous joint programmes, confirmed that underdevelopment or improper development are at the roots of most environmental problems, and that meaningful and lasting environmental protection is indeed inseparably linked with social and economic development. In such context, and as part of IOC's and UNEP's preparations for the 1992 United Nations Conference on Environment and Development (UNCED), an attempt is being made by their secretariats to analyse the present problems of the marine and coastal environment and to formulate strategies which may contribute to the solution of these problems, taking into account the issues raised in General Assembly resolution 44/228. It is expected that the document, once completed, will provide the basis for common strategies of IOC and UNEP in dealing with marine and coastal affairs and thus will strengthen the capacity of these organizations, and the United Nations system as a whole, to respond in a more concerted and coherent way to the present and forthcoming environmental problems.

3. This effort is part of a broader review of challenges and achievements in four main areas in light of the twentieth anniversary of UNEP:

(a) State of the environment 20 years after the 1972 Stockholm Conference;

(b) United Nations Plan of Action to Combat Desertification;

(c) The Montevideo Programme on environmental law;

(d) Oceans and coastal areas.

In each of these areas it is important to look at what has been implemented and what has not, as well as what should be the direction of plans for future work in order to solve past problems and face new challenges. These efforts are carried out notwithstanding that final adjustments of the results of the reviews may have to be made after the General Assembly in 1992 decides on the recommendations of the United Nations Conference on Environment and Development.

4. The first incomplete draft of the analysis and the proposed strategies was presented for information to the recent session of the IOC Assembly, held in Paris from 7 to 22 March 1991. The Assembly took note of the draft, welcomed this joint initiative and encouraged the secretariat of IOC to pursue the completion of the document in co-operation with UNEP.

5. The UNCED secretariat is being kept informed about this joint activity of IOC and UNEP as it may contribute to the preparations for the 1992 Conference.

Suggested action by the Governing Council

The Governing Council may wish:

1. To approve the completion of the strategy document by UNEP, in co-operation with IOC, as an important input to the planning of UNEP, IOC and other parts of the United Nations system;

2. To request the Executive Director to arrange for the completed document to be submitted to the Governing Council at its special session in 1992 for endorsement, as well as to the IOC Assembly, and to be made available to the United Nations Conference on Environment and Development, either directly or through its Preparatory Committee.

Annex

STRATEGIES FOR THE PROTECTION AND DEVELOPMENT OF THE OCEANS AND COASTAL AREAS

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HIGHLIGHTS

Importance of the oceans, coastal areas, and their resources

1. The oceans have always had and will continue to play a decisive role in shaping the life of this planet. The global energy budget and the biogeochemical processes on which all life depends are critically influenced by the oceans.

2. The interactions between the oceans and the coastal terrestrial areas are numerous and very intimate. The ecological systems of the coastal areas, as well as the socio-economic development of these areas, are heavily influenced by the conditions created by the proximity of the oceans. Nowhere is this mutual interdependence and influence so evident as in the coastal and near-shore zones of enclosed and semi-enclosed seas, and on islands.

3. The near-shore maritime areas contain the largest part of commercially exploitable marine living and mineral resources. They are also the zones used for mariculture, whose full potential is yet to be developed.

4. Due to the numerous advantages offered by the coastal and near-shore areas, they have since antiquity been among the most intensively used parts of the planet. One third of today's population lives on the sea-shores or in their immediate proximity; a variety of industries have developed on a large scale along the coast; the coastal zones are a major recreation area and the basis for expanding tourism, harbours are essential as centres for national and international transport and trade.

5. The global water circulation regime and the global climate are heavily influenced by the Antarctic continent and the Southern Ocean. At the same time they are, apart from the exploitation of marine mammal populations, the last frontier on the earth preserved in virtually intact conditions.

Main problems and their causes

6. The nature of the problems affecting the marine and coastal environment has not altered greatly in the past decades. However the incidence and extent of human interference in the coastal areas, as well as our perception of the main threats and corresponding solutions have changed markedly on the basis of knowledge and experience accumulated over the same period. Today the environmental problems are recognized as problems stemming from inadequate or improper development whose ultimate solution should be sought in resolving conflicting interests for space and resources in the framework of an environmentally sound economic development.

7. Aside from some living resources, the open oceans seem to be still largely unaffected, but the physical and ecological degradation of coastal areas and the increase in pollution of near-shore waters from land-based sources are accelerating at an alarming pace. The often dramatic and irreversible alteration of natural coastal ecosystems and the extensive pollution of the sea are primarily caused by the rapid growth of coastal settlements, the expansion of recreational areas, and the concentration of industrial development in coastal zones, accompanied by inadequate environmental and economic policies. The situation in many enclosed and semi-enclosed seas, largely due to pollution from land-based sources, or from major maritime accidents, such as the one involving the Exxon Valdez, is of particular concern.

8. The expected impact of predicted climate changes will exacerbate the present problems and may, in areas such as low-lying islands and coastal zones, significantly influence or even imperil their future development and use. The predicted climate change will certainly affect marine living resources in many ways. Large scale changes in total marine fisheries production are not expected, although individual stocks may suffer. Mariculture will probably be more affected. Tropical upwelling zones, which produce large amount of fish resources may shift polewards by hundreds of kilometres. The year to year variability of the resources they

support may increase and the increased plankton productivity may reduce oxygen levels and lead to anoxic situations. The increased ultraviolet radiation related to ozone layer depletion may lead, according to some estimates, to detrimental effects on some shallow water ecosystems such as coral reefs, and may affect plankton growth.

9. The oceans and coastal areas are still not considered as finite economic assets which can be used on a sustainable basis only by prudent and rational exploitation. This is particularly evident when development plans and environment confront conventional spending priorities. Therefore relatively low priority is assigned in most national development plans to the protection of these areas and to rational use of their resources. The result is a scarcity of funds needed for measures which could prevent, reduce or eliminate pollution of the marine environment, halt the physical degradation of coastal areas and protect their resources. In reality, such approach leads to seriously reduced capacities for socio-economic development. The poor countries are particularly vulnerable due to this vicious circle.

10. The situation is specially serious in economically disadvantaged countries burdened by depletion of natural resources, heavy indebtedness, unstable commodity prices and unfavourable trading systems. International assistance which would allow disadvantaged countries to cope with their environmental problems, often originating from industrialized world (e.g. global climate change), is negligible, frequently even misguided, and is not commensurate with the magnitude of the problems to be solved.

11. The polar regions contain some of the most fragile ecosystems. Indiscriminate exploitation of their living resources has already brought some mammal species to the brink of extinction which may have caused a serious imbalance in the natural ecosystems.

12. War is among the most destructive and wasteful human activities. Its direct and indirect impact on the environment, economy and human wellbeing are enormous and, as demonstrated by the consequences of the recent hostilities between Kuwait and Iraq, can reach catastrophic dimensions, covering large geographic areas.

13. The capabilities of most countries, especially the developing ones, are still generally insufficient to cope adequately with the full complexity of the assessment of the problems facing their marine and coastal environment and the rational management of their resources. National institutional structures are generally too weak and lack the interdisciplinary expertise needed for effective action. This weakness of national structures also seriously hampers the effective participation of many countries in international efforts designed to protect and develop the marine and coastal environment.

14. The protection of the marine and coastal environment is reflected in the national legislation of most countries and in numerous international agreements. However, the provisions of these legislative acts are not applied efficiently to guarantee development without undermining the natural resource-base.

15. Public awareness about the problems of the marine and coastal environment is still generally weak although in some countries it plays an important and highly visible role in mobilizing support from broad segments of population for the necessary societal decision-making needed for the development of that environment and rational utilization of its resources.

16. The knowledge accumulated during past decades about the magnitude and the main causes of the problems is considerable and sufficient to realize that the situation is serious and calls for urgent action. The technical solutions to most of these problems are also quite well known and are available. However, present databases and understanding of the processes shaping the natural conditions of oceans and coastal areas are generally

inadequate for management purposes and for the reliable predictions about the trends in these conditions and, consequently, forecasts for changes that may be expected contain a relatively high degree of uncertainties.

17. In summary, four main factors, none of them specific to the marine and coastal environment, seem to be at the root of present environmental problems hampering sustainable development:

(a) Inappropriate national and international economic policies and forms of development which do not take into account adequately the environmental consequences of these policies;

(b) Weak regulatory mechanisms and administrative systems dealing with environmental issues;

(c) Insufficient public awareness about the real causes and magnitude of environmental problems, and about the available remedial measures; and

(d) Inadequate forecasting of emerging environmental problems.

Remedies

18. *Sustaining human life and well-being requires development and a healthy environment.* Development can become difficult to achieve if natural resources are depleted or the environment degraded. Therefore, the *ultimate goal* of all strategies for the development and protection of the oceans, coastal waters and their resources should be to ensure their *rational use.* In case of *renewable resources* rational use must imply *indefinite sustainable use.* The use of *non-renewable resources* obviously, can not be sustained indefinitely, but must provide the economic basis for build-up of activities and conditions that will ensure or contribute to a *long-term and sustainable socio-economic development* once the non-renewable resources are exhausted. Consequently, all remedies for the present and anticipated environmental and developmental problems should be designed with that goal in mind, and their appropriateness should be judged from the degree in which they succeeded to achieve that goal.

19. The problems of the oceans, coastal areas and their resources are of global significance and hence their solution requires *global environmental strategies inseparable from global development strategies.*

20. The present problems are most evident in coastal and near-shore areas under the direct onslaught of man's activities. Although seemingly local in nature, these problems are so widespread and are so evident even at sites far away from their origin that only globally applied strategies have a chance to achieve *long-term solutions.* However, the type and intensity of measures and policies, if they are to be effective, must be made in response to the actual situation, keeping in mind that a solution at one site should not create a nuisance elsewhere. Consequently, the most cost-effective remedies should be sought through *action on local and national level, undertaken in the framework and as part of wider regional and global development strategies,* including the transfer of the necessary resources, technology, knowledge and skills to the disadvantaged countries.

21. The protection of high seas and of their resources obviously require a *global approach* because unco-ordinated local or unilateral national action cannot contribute significantly to the solution of their problems. The exploitable living and non-living resources of the Southern Ocean require a specially restrictive management regime. Due to the extreme fragility of the Antarctic ecosystems, an internationally binding agreement to refrain from commercial exploitation of its mineral resources may be the only safeguard for its environment. As a minimum, such prohibition should be imposed for 40-50 years and reviewed after 10-15 years.

22. The application of *environmentally sound management practices* in coastal and maritime activities, rather than narrowly defined "conservation", is now accepted as one key to safeguarding and developing the marine and coastal environment and their resources. The unplanned or

poorly planned land- and sea-use practices, the irrational exploitation of natural resources, and the pollution to which they incidentally give rise can be avoided only by these means. Management implies use: *rational use*. Emphasis on the concept of *integrated management* reflects a critical change from earlier views of most environmentalists that the oceans had to be preserved unchanged rather than used rationally.

23. The seas have no physical boundaries to prevent movement of polluted waters. Therefore global or regional strategies are needed to *control transboundary pollution from land-based sources*, including pollution reaching the marine environment through rivers and the atmosphere. The strengthening and enforcement of the 1977 Convention on the *prohibition of military or any other hostile use of environmental modification techniques* should be urgently considered by the international community.

24. Accidents resulting in damage to the coastal and nearshore environment, such as the pollution caused by tanker accidents, can not be completely avoided, but with the formulation and adequate implementation of *contingency and emergency plans* their environmental impact can be considerably mitigated.

25. Although the effects of predicted climate changes may not be felt in the near future, in the long-term their implications for the socio-economic life of coastal zones may be considerable and particularly serious for low-lying countries and small islands. The *adaptation to the changing conditions* will require a long lead-time. Therefore the full complexity of the potential problems which may be associated with predicted climate changes should be analyzed without delay and the possible *policy options and measures* which may be used as suitable response to the expected impacts should be examined and reflected in the national *integrated coastal zone management plans*.

26. The policies, measures and arrangements for the protection and use of the marine and coastal environment, if they are to be rational and thus effective in the long term, should be based on an *improved understanding* of marine and coastal ecology, including ecosystem dynamics; of the relevant ocean processes; and of their interaction with terrestrial and atmospheric systems.

27. *Long-term systematic research and observation* programmes should be organized according to a globally co-ordinated strategy to *monitor the changes* in the state of the marine and coastal environment and of ocean processes, and their interaction with atmospheric and terrestrial processes. The results of the research and observations should be critically evaluated and widely disseminated through easily accessible databases.

28. The national institutions in charge of environmental protection in many countries are usually weak or even nonexistent. Their influence on national development plans is frequently only of marginal importance. Without creating *strong national infrastructures*, equipped with interdisciplinary expertise, and without giving them access to the circles where decisions relevant to the protection of environment are made, no effective protection of coastal and marine environment could be expected.

29. The protection and development of seas and coastal areas require a variety of expertise, and above all a good grasp of the cross-sectoral nature of environmental protection. While narrow, sectoral technical expertise exists in most countries, greater efforts should be devoted to the *training* of experts in interdisciplinary skills.

30. Effective protection of the oceans can be achieved only through a high level of *intergovernmental co-operation*. It is essential therefore to strengthen and expand the *multilateral programmes and agreements* designed to protect the marine and coastal environment according to the specific needs of the countries concerned. *Assistance to the economically disadvantaged countries* must be part of arrangements supporting intergovernmental co-operation.

31. Existing *global and regional agreements*, although not universal remedies, are among the most forceful international arrangements providing the legal basis and signifying the *political commitment* for joint action. Therefore broader adherence to the existing agreements and strict application of their provisions would contribute considerably to the protection of the marine and coastal environment. Whenever appropriate, existing agreements should be expanded or adapted to the changing needs of the countries concerned, and additional agreements should be adopted to regulate subjects not covered by existing agreements.

32. Although *transfer of technology, experience and data*, provision of *training*, as well as *financial assistance, preferential treatment* and *compensation for damage* are usually among the provisions of existing international agreements, the developing countries have benefited relatively little from such provisions. Therefore *fostering of global solidarity* must be an essential element of all international agreements.

33. The widest *popular participation* in the protection of the marine and coastal environment is essential. Such participation necessitates involvement of those who may be affected by changing environmental conditions in *decision-making debates* about development schemes which may cause such changes. It also requires broad *educational and public awareness programmes*, including introduction of environmental subjects in school curricula on all levels, as well as the provision of regular information to the general public through mass media and special publicity campaigns about the environmental and developmental issues. Such publicity campaigns should emphasize the importance of the potential *contribution from each individual* to maintain a healthy environment as a basic precondition for sustainable socio-economic development.

34. The lack of funds, particularly in developing countries, is the crucial and single major impediment for a more forceful environmental protection action. The remedy, without which all measures and decisions will remain only at the level of declarations, is in the provision of *financial resources* additional to those currently available, enabling the disadvantaged countries to become equal partners in dealing with global economic and environmental issues. The financial resources required are of unprecedented magnitude, unlikely to be met from regular government budgets. They could come from increased flow of assistance through the mechanisms of international agreements, from radical expansion of the present *bilateral arrangements* between developing countries and lending/funding/donor/aid agencies and countries, or from new *multilateral funds* through which such resources would be channelled to disadvantaged countries.

35. However, no combination of policies, technologies and resources can significantly ameliorate the present situation unless the *non-technological roots of the problems* are overcome: population pressure on limited resources and space, competitive nationalism, the global maldistribution of wealth and opportunity, the notion that economic growth and human wellbeing are directly proportional and, last but not least, the illusion that supposes civilizations to be self-supporting without help from natural ecosystems. Obviously, in order to achieve these, a *new attitude, based on global solidarity*, would be required.